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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/561,115 | 12/15/2005 | Norikazu Ohtake | BY0026 | 1781 |
| 210 | 7590 | 01/07/2009 | EXAMINER | |
| MERCK AND CO., INC | | | JARRELL, NOBLE E | |
| P O BOX 2000 | | | | |
| RAHWAY, NJ 07065-0907 | | | ART UNIT | PAPER NUMBER |
| | | | 1624 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/561,115 | OHTAKE ET AL. | |
| | Examiner | Art Unit | |
| | NOBLE JARRELL | 1624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 October 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 48-57 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 48,49,51-54 and 56 is/are rejected.
 7) Claim(s) 50,55 and 57 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Arguments

1. The rejection made under 35 U.S.C. 102 has been overcome by the amendment filed 10/14/2008.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 48, 49, 51-54, and 56 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for instances where variable Y is phenyl, O-phenyl, naphthyl, quinoliny, 4-oxo-1,3-diazole, piperidin-2-one, pyridine, pyridin-2-2(1H)-one, dialkylamino, pyrimidine, [1,2,4]-triazolo[4,3-a]pyridine, dibenzo[b,d]furan, and CH₂-piperidinyl, does not reasonably provide enablement for the other possible groups disclosed for variable R in these claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. Applicants only provide support for compounds where variable R is phenyl, O-phenyl, naphthyl, quinoliny, 4-oxo-1,3-diazole, piperidin-2-one, pyridine, pyridin-2-2(1H)-one, dialkylamino, pyrimidine, [1,2,4]-triazolo[4,3-a]pyridine, dibenzo[b,d]furan, and CH₂-piperidinyl. In claims 48, 49, 51, 52, 55, the scope of the variable Y encompasses much more than the disclosure reasonably enables.

The factors to be considered in determining whether a disclosure meets the enablement requirements of 35 U.S.C. 112, first paragraph, have been described in *In re Wands*, 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir., 1988). The court in Wands states, "Enablement is not precluded by the necessity for some experimentation, such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue', not 'experimentation'" (*Wands*, 8

USPQ2sd 1404). Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations" (Wands, 8 USPQ2d 1404). Among these factors are: (1) the nature of the invention; (2) the breadth of the claims; (3) the state of the prior art; (4) the predictability or unpredictability of the art; (5) the relative skill of those in the art; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

Consideration of the relevant factors sufficient to establish a *prima facie* case for lack of enablement is set forth herein below:

(1) The nature of the invention and (2) the breadth of the claims:

The claims are drawn to compounds of formula I that are defined by a pyrimidine-O-piperidine core and pharmaceutical compositions containing same. This core only defines 50% of the molecule. The presence and identity of variables Y and R are critical to this compound and may even alter the substantial structural core and thus alter the classification of the compound itself.

(3) The state of the prior art and (4) the predictability or unpredictability of the art:

Compounds encompassed by formula I are known in the art. Dorwald (*Side Reaction in Organic Synthesis*, 2005, page IX of preface) teaches that organic chemistry is difficult.

(5) The relative skill of those in the art:

One of ordinary skill in the art can replicate example 1 of the specification.

(6) The amount of direction or guidance presented and (7) the presence or absence of working examples:

The specification has provided guidance for the preparation of compounds of formula I where variable Y is phenyl, O-phenyl, naphthyl, quinolinyl, 4-oxo-1,3-diazole, piperidin-2-one, pyridine, pyridin-2-2(1H)-one, dialkylamino, pyrimidine, [1,2,4]-triazolo[4,3-a]pyridine, dibenzo[b,d]furan, and CH₂-piperidinyl.

However, the specification does not provide guidance how to make and use all of the possible modifications encompassed by variable Y set forth in the claim.

(8) The quantity of experimentation necessary:

Considering the state of the art as discussed by the references above, particularly with regards to claims 48, 49, 51-54, and 56 and the high unpredictability in the art as evidenced therein, and the lack of guidance provided in the specification, one of ordinary skill in the art would be burdened with undue experimentation to practice the invention commensurate in the scope of the claims.

This rejection is maintained because variable Y in the specified claims encompasses more than what applicants are enabled for. For example, possibility (2) for variable Y includes much more than just [1,2,4]-triazolo[4,3-a]pyridine.

Conclusion

4. Claims 50, 55, and 57 appear free of the prior art of record.
5. The following is a statement of reasons for the indication of allowable subject matter:
Marino et al. (WO 2005/097111, published October 20, 2005, filed March 22, 2005, claiming priority back to 60/561,188, filed 9 April 2004, cited in June 21, 2007 office action). Marino et al. teach the first species of claim 45, 2-(1-cyclopentylpiperidine-4-yloxy)-5-(4-cyanophenyl)pyrimidine (see page 6, line 14). This compound has the following meaning for each variable: Y is 4-cyanophenyl; X₁ and X₂ are N; X₃ is C; W is formula II where m=1; and R is cyclopentyl. This reference cannot be considered prior art because it does not antedate the filing date of application JP 2003-184879, 6/27/2003, of which applicants provided a translated copy.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOBLE JARRELL whose telephone number is (571)272-9077. The examiner can normally be reached on M-F 7:30 A.M - 6:00 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson can be reached on (571) 272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Noble Jarrell/
Examiner, Art Unit 1624

/James O. Wilson/
Supervisory Patent Examiner, Art Unit 1624